

REMARKS

In this Preliminary Amendment, claims 10-12 have been canceled and claim 8 has been amended. New claim 22 has been added to point out a preferred embodiment of the invention.

In the Office Action, claims 10-12 and 21 were rejected under 35 U.S.C.112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the applicant regards as the invention.

Reconsideration is requested.

Claims 10-12 have been canceled. Claim 21 uses the term "sheet shaped film" to point out that the polytetrafluoroethylene is in the shape of a sheet which is applied to the metal support plate in order to point out that the film is applied as a solid shaped sheet and is not a film that results from a coating operation. Fig. 3 shows a shaped polytetrafluoroethylene shaped sheet on a peeling sheet. Coated films which are hardened are known from JP SHO59-18861 (JP '861) and JP HEI11-184300 (JP '300). For these reasons, it is requested that this ground of rejection be withdrawn.

Claims 8, 10-16 and 21 were rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admissions regarding the prior art as set forth in either JP '681 or JP '300 as set forth in the specification at pages 2, 3 and 4 in view of either Lin et al. or Kobori. The Examiner commented that the applicant had argued that JP '681 and JP '300 do not disclose a "film" to be adhered to a metal plate but rather a "coating" on a metal base member. The Examiner further contended that films are formed when a coating hardens and because the claims were open ended a coating may be present.

Reconsideration is requested.

The text of amended claim 8 points out --a polytetrafluoroethylene sheet shaped film adhered with a silicone based adhesive to a portion of the metal plate--. This language explicitly requires the adherence of the polytetrafluoroethylene sheet shaped film with a silicone based adhesive. Nothing in the prior art suggests the use of any type of an adhesive in the application of a coating to a substrate.

Example 2 of the present specification points out that the peeling sheet is prepared as follows:

A peeling sheet was prepared by cutting a stainless steel plate (SUS304CSP) having a thickness of 100 μ m into a piece 300mm in length, i.e., a contact width (L) and 40mm in width. Burrs produced on a cut surface of the peeling sheet were carefully removed. The corner of the peeling sheet that contacts the roller was rounded to have a radius of curvature of about 0.01mm to 0.03mm.

The peeling sheet was adhered to a metal support having a thickness of 1mm, a length of 300mm, and a width of 60mm by YAG laser spot welding with a spot diameter of 0.5mm and a spot space of 5mm, to form a peeling member.

(a) Then, a fluoro-resin film was adhered to tip of the peeling sheet.

(b) The fluoro-resin film was prepared (a PTFE film having a thickness of 50 μ m (Bearee FL3090 manufactured by NTN Engineering Plastics Corporation)).

(c) The PTFE film of (b) was etched by immersion in an ammonia

solution of metallic sodium.

(d) On the etched surface of the PTFE film, a silicone based adhesive solution containing dimethylpolysiloxane crude rubber (KR101 manufactured by Shin-Etsu Chemical Co., Ltd.) was coated uniformly and was heated and dried at 120 to 200°C. After cooling to room temperature, a silicone based adhesive layer having a thickness of about 30µm was formed.

(e) The fluororesin film was disposed on a smooth board so that the adhesive layer faces upwardly.

(f) Then the peeling sheet was chamfered and fully degreased with petroleum benzine and the fluororesin film is adhered to the surface of the peeling sheet using the roller contact portion as a boundary. Thus, a peeling member is provided having a fluororesin sheet adhered with a silicone adhesive to the roller contacting portion of the peeling sheet.

The cited prior art does not make obvious the use of a sheet of PTFE which must be adhesively bonded to the metal peeling sheet by the mention of a coating process.

Both of the disclosed peeling sheets have a **coating** on the base member. In sharp contrast, the present invention has a film that is fastened to the metal plate with an adhesive.

Claim 5 of the JP '681 patent discloses a peeling sheet, which comprises a thin metal buried as a core in a plastic sheet. Also, the JP'681 patent discloses, "In case of applying a thin metal plate as a core, the peeling sheet can be formed by coating a resin on the surface of the sheet." See page 3, line 1 of upper right column in the specification. Accordingly, the peeling sheet of '681 comprises a coated film.

JP '300 (Priority document of U.S. 6,236,829, the '829 patent) discloses a peeling sheet, which comprises a thin base member made of polyimide coated with a fluorine resin layer. See column 5, lines 47-53 of the '829 patent. The fluorine resin layer is apparently a coated film.

The '829 patent discloses that the base member may be cut to a predetermined size and thereafter, the individual base member may be coated with the fluorine resin. According to this method, it is difficult to coat the section, particularly the edge portion with fluorine resin, which may result in portions which are not coated with fluorine resin in particular locations. See column 12, lines 23-28 of the '829 patent (column 0073 of '300). It is difficult to coat the section, particularly the edge portion by coating the edge with a film coat. A varnish for coating flows easily from the edge portion to the planar portion of the base member immediately after coating, because the varnish has good flowability. Accordingly, the description of "it is difficult to coat the section, particularly the edge portion with fluorine resin, possibly resulting in portions which are not coated with fluorine resin locally" definitely means the fluorine resin is the **coating**. The coatings of the cited patents never use a silicone self-adhesive as disclosed in Lin and Kobori.

The polytetrafluoroethylene film claimed in Claim 8 is a sheet shaped film and not the film that is formed by the coating method disclosed in JP'681 and/or JP'300 which does not use a silicone adhesive.

The film of the present invention is adhered with a silicone base adhesive to the metal plate. There are no portions that are not coated with polytetrafluoroethylene film because the film has an even thickness and it covers the edge portion and tip end portion.

The film is a sheet shaped film as pointed out in claims 8, 21 and 22. The word "sheet shaped film" is supported by the description of Example 2. In claim 22, the term "consisting essentially of" is used to point out that a sheet PTFE is adhered to the metal plate. This language cannot be construed as including a coated film.

JP '300 teaches away from a structure where a polytetrafluoroethylene film is adhered to a base. The reason is as follows:

JP '300 (priority document of U.S. 6,236,829) discloses a method of cutting the base member to a predetermined size and thereafter, **coating** the individual base members with fluorine resin.

The peeling sheet of the present invention comprises a metal plate on which is adhered a polytetrafluoroethylene film on the edge portion and on the tip end portion.

YAG laser spot welding, as disclosed in the present application, is used to bond the **metal** plate of the peeling sheet to the **metal** support member. The YAG laser spot welding is not used to bond the metal plate to the polytetrafluoroethylene film. The amended text of claim 8 and the text of new claim 22 makes this point explicit.

Luc describes a dynamic friction bonding process for bonding metals to resin films as disclosed in examples. Luc does not disclose the YAG laser welding method.

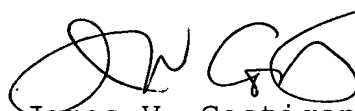
It is difficult to bond the metal plate to the metal support member. It is an essential feature of the present invention that the support member and the peeling sheet are adhered with YAG laser spot welding. This is evident from the Examples of the specification.

JP'681 and JP'300 do not disclose the peeling sheet which is made by using a YAG laser spot welding procedure to adhere the support member to the peeling sheet.

In sharp contrast, the present invention uses a YAG laser spot welding technique to bond the two metal surfaces together. None of the cited references disclose the use of a YAG laser spot welding procedure for adhering the support member to the peeling sheet. The collective teachings of the prior art fail to make obvious the subject matter of the newly presented claims. The applicant believes that the coating procedures of the prior art have been excluded by the language of the amended claims and if the Examiner has any suggestions for further amendment of the claims, he is requested to telephone the undersigned.

An early and favorable action is earnestly solicited.

Respectfully submitted,



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